

REMARKS

Claims 1-30 are currently pending in the subject application. Claims 23-29 have been withdrawn from consideration, and claims 1-22 and 30 are presently under consideration. Claims 1, 4, 8, 9, 13, 18-20, 22 and 30 have been amended and claims 2-3, 5-7, 10-12, 14-17, 21 and 23-29 have been cancelled herein. Additionally, claims 31-50, which are fully supported by the specification, have been added as indicated above. A listing of the claims can be found at pp. 2-7 above.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1-5, 7-15, 18-22 and 30 Under 35 U.S.C. §103(a)

Claims 1-5, 7-15, 18-22 and 30 stand rejected under 35 U.S.C. §103(a) over Johnson (US 6,788,980) in view of Vuong, *et al.* (US 6,430,578) (hereinafter Vuong). It is respectfully requested that this rejection be withdrawn for at least the following reasons. Johnson and Vuong, alone or in combination, fail to teach or suggest each and every feature as set forth in the subject claims. Additionally claims 2-3, 5, 7, 10-12, 14 and 21 have been cancelled as indicated above, so this rejection is moot.

By way of general background, the subject application relates to providing Web-based access to devices residing on a non-TCP/IP network within an industrial environment. To this end, independent claim 1, as amended, recites in part, “***a portal that interfaces to a plurality of disparate networks, wherein at least one of the plurality of disparate networks is a non-TCP/IP-based network, wherein the portal invokes a browse engine to: search the non-TCP/IP-based network, discover at least one component located on the non-TCP/IP-based network, and facilitate Web-based communication with the at least one component located on the non-TCP/IP-based network.***” Johnson and Vuong, alone or in combination, fail to teach or suggest each and every feature as recited in independent claim 1.

Johnson provides a control system, which employs field and control devices that that communicate *via* an IP network (*e.g.*, Ethernet). *See, e.g.*, Abstract. The control system employs a Java virtual machine environment to execute Java byte code to configure field devices to execute a control algorithm. *See* col. 2, lines 37-41; col. 8, lines 40-45. Accordingly, the control system uses Web browsers, Java, TCP/IP and other technologies normally associated

with the Internet and World Wide Web to create a self-defining control network that minimizes complexity and emphasizes portability and re-usability. *See* col. 7, lines 31-37. However, Johnson fails to teach or suggest ***a portal that interfaces to a plurality of disparate networks, wherein at least one of the plurality of disparate networks is a non-TCP/IP-based network.***

The control system as described by Johnson requires each device to be connected to an IP network. *See, e.g.,* col. 4, lines 4-7; col. 23, lines 31-32. The control system as described by Johnson does describe an ability to interface with native and non-native field devices. *See, e.g.,* col. 7, lines 12-20. Native devices are devices that require an I/O card that supports the network protocol directly, while non-native devices are devices that require an I/O card that supports either IP or API. *See* col. 9, lines 2-6. Accordingly, non-native devices can be integrated into the control system through I/O cards, wherein the I/O cards provide an interface that permits at least reading and writing relevant device values, which can be stored internally to the card. *See* col. 9, lines 36-48. However, these non-native devices are not part of a ***non-TCP/IP-based network.***

Even assuming *arguendo* that non-native devices could reside on a non-TCP/IP-based network, Johnson still fails to teach or suggest a ***portal that invokes a browse engine to: search the non-TCP/IP-based network, discover at least one component located on the non-TCP/IP-based network, and facilitate Web-based communication with the at least one component located on the non-TCP/IP-based network.*** The Office Action admits that Johnson is silent with regard to ***searching*** the non-TCP/IP-based network. *See* O.A. at p. 3. Additionally, Johnson does not teach or suggest ***discovering*** at least one component located on the non-TCP/IP-based network. Furthermore, Johnson does not teach or suggest ***facilitating*** Web-based communication with the at least one component located on the non-TCP/IP-based network.

Johnson describes a field device with an embedded Web-server that can be used to configure, monitor and maintain elements of the control system *via* a browser. *See* col. 3, lines 53-57. This web server, however, can only be used with native devices (*i.e.,* devices on a TCP/IP-based network). Each device is assigned a name (*see* col. 15, lines 20-28), but only native devices can acquire an IP address. *See* col. 15, lines 31-32; col. 16, lines 23-24. Once a device has an IP address, the device registers its characteristics on a native bulletin board, which enables software services to enter into relationships with the native device. *See* col. 15, lines 37-49; col. 16, line 25. Thereafter, an engineer can start a Web browser on a work station, the

default browser is cached and contains an applet that locates the native bulletin board and raises the initial Web page that lists services available from that work station. *See* col. 16, lines 45-52. Then, the engineer can select a native device of interest and a configurator to make desired changes. *See* col. 16, lines 53-58. This configuration method cannot occur with a ***component located on the non-TCP/IP-based network***. Instead, the configuration of a non-native device must be provided by a separate service that encapsulates the native commands and passes them through a native device. *See* col. 16, lines 59-61. The configuration of a non-native device is off-line. *See* col. 16, lines 64-65.

For at least the reasons as described above, Johnson clearly fails to teach or suggest each and every feature as recited in independent claim 1. Vuong, which relates to a name service for entities installed on a computer network, fails to make up for the aforementioned deficiencies of Johnson. The name service is configured to provide unique identifiers and addresses for entities on a computer network and store the unique identifiers and addresses in a database. *See* col. 2, lines 10-12. The name service has the ability to respond to queries by searching the database and returning the associated results. *See* col. 6, lines 44-54. However, this name service can only provide identifiers and addresses for entities on a TCP/IP-based network. The name service functionality cannot extend to a ***non-TCP/IP-based network***.

Even assuming *arguendo* that the name service described by Vuong might extend to a non-TCP/IP-based network, Vuong still fails to teach or suggest a ***portal that invokes a browse engine to: search the non-TCP/IP-based network, discover at least one component located on the non-TCP/IP-based network, and facilitate Web-based communication with the at least one component located on the non-TCP/IP-based network***. The name service as described by Vuong fails to teach or suggest a browse engine that can search a ***network***. Instead, the name service can merely receive a query from an application or other server, which triggers a search of the name server database. *See* col. 6, lines 44-49. Similarly, Vuong also fails to teach or suggest ***discovering*** at least one component located on the non-TCP/IP-based network. Furthermore, Vuong does not facilitate ***Web-based communication*** with the at least one component located on the non-TCP/IP-based network. Therefore, Vuong clearly fails to remedy the deficiencies of Johnson.

For at least the reasons as described above, Johnson and Vuong, alone or in combination, clearly fail to teach or suggest each and every feature as recited in independent claim 1. At least

by virtue of dependence, Johnson and Vuong, alone or in combination, also fail to teach or suggest each and every feature as recited in associated dependent claims 4, 8 and 9.

Accordingly, it is respectfully requested that this rejection be withdrawn and claims 1, 4, 8 and 9 allowed.

Similarly, amended independent claim 13 recites in part, “***a gateway that facilitates access to at least one non-TCP/IP-based network; and an arbitrator that searches the at least one non-TCP/IP-based network, discovers at least one industrial device residing the at least one non-TCP/IP-based network and provides information related to the at least one industrial device, wherein the information comprises at least one of: a manual, a log file, a history or a Web page.***” At least for the reasons as described above with respect to independent claim 1, Johnson and Vuong, alone or in combination, fail to teach or suggest each and every feature as recited in independent claim 13. Furthermore, both Johnson and Vuong are silent with regard to an ***arbitrator that provides*** any one of ***a manual, a log file, a history*** and ***a web page related to the at least one industrial device.*** At most, the cited art can provide name or address information. Therefore, Johnson and Vuong, alone or in combination, clearly fail to teach or suggest each and every feature as recited in independent claim 13. Additionally, the cited art, alone or in combination, fails to teach or suggest each and every feature as recited in associated dependent claims 15, 18-20 and 22, at least by virtue of dependence. Therefore, it is respectfully requested that this rejection be withdrawn and claims 13, 15, 18-20 and 22 allowed.

Likewise, independent claim 30, as amended, recites in part, “***means for interfacing Web functionality to at least one non-TCP/IP-based network; and means for browsing the at least one non-TCP/IP-based network and discovering available devices on the at least one non-TCP/IP-based network, wherein the means for interfacing routes messages to at least one of the available devices.***” For at least the reasons as described above with respect to independent claims 1 and 13, Johnson and Vuong, alone or in combination, fail to teach or suggest each and every feature as recited in independent claim 30. Accordingly, it is respectfully requested that this rejection be withdrawn and independent claim 30 allowed.

Furthermore, Johnson and Vuong, alone or in combination, also fail to teach or suggest each and every feature as recited in the dependent claims. For example, amended claim 8, which depends from independent claim 1, recites in part, “the portal provides ***a security mechanism that controls access to the at least one component located on the at least one non-TCP/IP-***

based network.” Similarly, amended claim 22, which depends from independent claim 13, recites in part, “the gateway comprises *a configurable security component that verifies and validates authorization to one or more of the industrial devices.*” Johnson fails to teach or suggest such novel features. Instead, Johnson merely describes a native security system that applies a lock-and-key security scheme to a native network. *See* col. 11, lines 9-16. The security described by Johnson is not centralized like the systems recited in claims 8 and 22. Additionally, since Johnson describes a security system applicable to a native network, the security system cannot be applied to a *non-TCP/IP-based network* or components residing on the non-TCP/IP-based network. Vuong fails to remedy the deficiencies of Johnson. Vuong merely screens interested requestors that send database queries (*see* col. 6, lines 55-65); even assuming *arguendo* that this screening may constitute a security mechanism, this security merely controls access to a database that may contain name information. Vuong cannot secure access to an industrial device. Therefore, for at least the reasons as described above, it is clear that Johnson and Vuong, alone or in combination, fail to teach or suggest each and every feature as recited in claims 8 and 22. Accordingly, claims 8 and 22 are patentable due to their dependencies from independent claims 1 and 13, and are also independently patentable for at least the reasons as described above. Therefore, it is respectfully requested that this rejection be withdrawn and claims 8 and 22 allowed.

Additionally, amended claim 18, which depends from independent claim 13, recites in part, “the arbitrator *dynamically discovers at least one newly added or removed industrial device and dynamically updates the information.*” Johnson fails to teach or suggest *dynamically discovering* newly-added or removed industrial devices. Instead, Johnson merely describes a procedure by which native devices can register with a native name service. *See* col. 16, line 25. Not only does this not apply for devices that reside on a non-TCP/IP network, the discovery of the new names is not dynamic. Vuong, which merely describes a similar name service, fails to remedy the deficiencies of Johnson. Accordingly, it is clear that claim 18 is not only patentable due to its dependence from independent claim 13, but also independently patentable since Johnson and Vuong, alone or in combination, fail to teach or suggest each and every feature as recited in claim 18. According, it is respectfully requested that this rejection be withdrawn and claim 18 allowed.

For at least the reasons as described above, it is clear that Johnson and Vuong, alone or in combination, fail to teach or suggest each and every feature as recited in the subject claims. Accordingly, it is respectfully requested that this rejection be withdrawn and claims 1, 4, 8, 9, 13, 15, 18-20, 22 and 30 allowed.

II. Rejection of Claims 6, 16, and 17 Under 35 U.S.C. §103(a)

Claims 6, 16, and 17 stand rejected under 35 U.S.C. §103(a) over Johnson and Vuong, in view of official notice. It is respectfully requested that this rejection be withdrawn because claims 6, 17 and 17 have been cancelled, as indicated above, so this rejection is moot.

III. New Claims 31-50

New claims 31-50, which are fully supported by the specification, have been added herein, as indicated above. Specifically claims 31-37 depend from independent claim 1, claims 38-49 depend from independent claim 13, and claim 50 depends from independent claim 30. For at least the reasons as described above, the cited art of record, alone or in combination, fails to teach or suggest each and every feature as recited in independent claims 1, 13 and 30. Accordingly, at least by virtue of dependence, Johnson and Vuong, alone or in combination, fail to teach or suggest each and every feature as recited in associated dependent claims 31-50. Therefore, these claims should be allowed. Furthermore, in addition to their dependence, claims 31-50 are also each independently patentable, at least because Johnson and Vuong, alone or in combination, fail to teach or suggest each and every recited feature.

For example, new claim 31, which depends from independent claim 1, recites in part, ***“the browse engine provides access to the at least one component located on the non-TCP/IP-based network.”*** For at least the reasons as described above, Johnson and Vuong, alone or in combination, fail to teach or suggest a component on a non-TCP/IP-based network. Additionally, neither Johnson nor Vuong can ***provide access*** to a component located on the non-TCP/IP-based network. Therefore, claim 31 should be allowed.

Furthermore, new claim 32, which depends from independent claim 1, recites in part, ***“the portal enables selection of the at least one component located on the non-TCP/IP-based network and facilitates at least one of: monitoring the at least one component located on the non-TCP/IP-based network, controlling the at least one component located on the non-TCP/IP-based network, configuring the at least one component located on the non-TCP/IP-based network, or obtaining related information about the at least one component located on the non-TCP/IP-based network.”*** For at least the reasons as described above, Johnson and Vuong, alone or in combination, clearly fail to teach or suggest a component on a non-TCP/IP-based network. Furthermore, neither Johnson nor Vuong can monitor, control, configure or obtain information about a component on a non-TCP/IP-based network. Therefore, claim 32, as well as associated dependent claim 33, should be allowed.

Additionally, new claim 33, which depends from new claim 32, which depends from independent claim 1, is also independently patentable. Claim 33 recites in part, ***“the related information includes at least one of: a manual, a Web page, a code or a log.”*** At least for the reasons as described above with respect to independent claim 13, both Johnson and Vuong are silent with regard to any one of a manual, a log file, a history and a web page related to a component on a non-TCP/IP-based network. At most, the cited art can provide name or address information. Accordingly, claim 33 should be allowed.

Further, new claim 34, which depends from independent claim 1, recites in part, ***“the portal and the browse engine reside within an Ethernet/IP-based module.”*** Johnson and Vuong, alone or in combination, fail to teach or suggest an Ethernet/IP-based module that houses a portal and a browse engine. Therefore, claim 34 should be allowed.

Moreover, new claim 35, which depends from independent claim 1, recites in part, ***“the portal invokes the browse engine in response to at least one of: a request to access the at least one component located on the non-TCP/IP-based network, a request to identify the at least one component located on the non-TCP/IP-based network or a request to update status information about the at least one component located on the non-TCP/IP-based network.”*** Johnson and Vuong, alone or in combination, are each silent with regard to a portal that can invoke a browse engine in response to any one of: a request to access the at least one component located on the non-TCP/IP-based network, a request to identify the at least one component located on the non-TCP/IP-based network and a request to update status information about the at

least one component located on the non-TCP/IP-based network. Therefore, claim 35, as well as associated dependent claims 36 and 37 should be allowed.

Additionally, new claim 38, which depends from independent claim 13, recites in part, ***“the gateway provides an entry point to the at least one non-TCP/IP-based network via a standard TCP/IP-Web-based browser.”*** For at least the reasons as described above with respect to independent claim 1, Johnson and Vuong, alone or in combination, fail to teach or suggest each and every feature as recited in claim 38. For example, both Johnson and Vuong clearly fail to teach or suggest a non-TCP/IP-based network that can be accessed *via* a standard TCP/IP Web browser. Therefore, claim 38 should be allowed.

Furthermore, new claim 39, which depends from independent claim 13, recites in part, ***“the gateway establishes a connection with a Web client and initiates a search for at least one industrial device residing the at least one non-TCP/IP-based network.”*** At least for the reasons as described above with respect to independent claim 1, Johnson and Vuong, alone or in combination, fail to teach or suggest each and every feature as recited in claim 39. Johnson is silent with regard to a search for at least one industrial device. Vuong enables queries, but these queries are for a name of a device in a database, not for a device. Additionally, the names stored in Vuong’s database are only for devices stored on a TCP/IP-based network. Therefore, Vuong cannot initiate a search for at least one industrial device residing on at least one non-TCP/IP-based network. At least by virtue of dependence, Johnson and Vuong, alone or in combination, also fail to teach or suggest each and every feature as recited in associated dependent claims 41-45. Therefore, claims 39-45 should be allowed.

Moreover, new claims 46 and 47 each depend from claim 18. For at least the reasons as described above with respect to claim 18, Johnson and Vuong, alone or in combination, fail to teach or suggest each and every feature as recited in claim 18. At least by virtue of dependence, Johnson and Vuong, alone or in combination, also fail to teach or suggest each and every feature as recited in associated dependent claims 46 and 47. Accordingly, claims 46 and 47 should be allowed.

Further, new claim 48, which depends from independent claim 13, recites in part, ***“the arbitrator receives a request for at least one industrial device through the gateway, wherein the request includes an identification of the at least one industrial device.”*** For at least the reasons as described above with respect to independent claim 1, Johnson and Vuong, alone or in

combination, fail to teach or suggest a request for a device. Johnson is silent with regard to receiving a request. Vuong enables database queries, but the query enabled by Vuong is for information about the name of the device. Accordingly, claim 48 should be allowed.

Additionally, claim 49, which depends from independent claim 13, recites in part, “***the information is utilized to determine whether the at least one industrial device is at least one of: coupled, configured or active.***” For at least the reasons as described above with respect to independent claims 1 and 13, Johnson and Vuong, alone or in combination, fail to teach or suggest information that can be utilized to determine the status of an industrial device on a non-TCP/IP-based network. Accordingly, claim 49 should be allowed.

Moreover, new claim 50, which depends from independent claim 30, recites in part, “***the means for interfacing receives a query for the at least one device and the means for browsing discovers the at least one device in response to the query.***” For at least the reasons as described above with respect to independent claims 1 and 13, Johnson and Vuong, alone or in combination, fail to teach or suggest each and every feature as recited in claim 50. Johnson is silent with regard to receiving a query for a device. Vuong enables database queries, but merely provides information about the name of the device; the query of Vuong is not a query for a device, but, rather, a query for information about the name of a device. Accordingly, claim 50 should be allowed.

For at least the reasons as described above, Johnson and Vuong, alone or in combination, clearly fail to teach or suggest each and every feature as recited in new claims 31-50. Accordingly, claims 31-50 should be allowed.

CONCLUSION

The subject application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [ALBRP329USA].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,
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